

REMARKS

Claims 1-22 were previously pending in the application. Upon entry of the present amendment, claims 1, 4, 5, and 7-25 will be pending in the application.

Claims 1 and 20-22 have been amended in accordance with the requirements of U.S. patent practice. Claims 2, 3, and 6 have been canceled, and new claims 23-25 have been added.

Support for the amendments to claim 1 can be found in original claims 2, 3, and 6, now canceled, claim 20, and on page 13, lines 21-29, and page 18, lines 22-29. The amendments to claim 22 are supported by claim 1 as amended, as well as original claim 4, page 16, line 1, and page 14, lines 16-22, of the specification as filed. Claim 20 has been amended to correct a typo. The amendment to claim 21 is supported by on page 18, lines 23-29. New claims 24 and 25 are supported on page 13, lines 21-29, of the original specification. The substance of the amendments to the claims will be discussed in more detail in differentiating from the cited prior art in the first rejection below.

Amendments to, cancellation of, and additions to, the claims, as set forth above, are made in order to streamline prosecution in this case by limiting examination and argument to certain claimed embodiments that presently are considered to be of immediate commercial significance. Amendment or cancellation of the claims is not in any manner intended to, and should not be construed to, waive Applicants' right in the future to seek such unamended or cancelled subject matter, or similar matter (whether in equivalent, broader, or narrower form) in the present application, and any continuation, divisional, continuation-in-part, RCE, or any other application claiming priority to or through the present application, nor in any manner to indicate an intention, expressed or implied, to surrender any equivalent to the claims as pending after such amendments or cancellations.

Reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

1. **Rejection of claims 1-22 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for GH-X 527, does not reasonably provide enablement for the protective sheet and the ranges claimed for the physical characteristics in Claim 1.**

The Office Action states that the specification, while being enabling for GH-X 527, does not reasonably provide enablement for the protective sheet and the ranges claimed for the physical characteristics in claim 1. 7/10/2009 Office Action page 2, last paragraph. The Office Action states:

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Applicant's specification fails to enable one having the ordinary skill in the art to make and use the protective sheet(s) claimed in claims 1-22...

It is examiner's position that the claims as written are not enabled by the accompanying disclosure. As applicant has only given one example of said protective sheet as stated in Table 1. Table I does not provide support for the ranges claims in claims 1-22. For example, Table 1 states that the Storage Modulus is between a range of 10^7 - 10^8 while the claim language (claim 1) states that the storage modulus can be any number greater than 10^7 , such as 10^{10} . Furthermore, Table 1 states that the elongation of break is 430% while the claim language (claim 1) calls for an elongation greater than 300% such as 1000%. There is no accompanying disclosure stating how a film other than GH-X 527 would be made or altered in order to achieve the claimed ranges.

Applicants respectfully submit that the specification is enabling. Applicants have amended claim 1, as suggested by the Examiner, to recite that the protective sheet has a storage modulus E' of from 10^7 to 10^8 Pa in the temperature range from room temperature to 100°C , and an elongation at break of from 400 to 900% at 23°C , as supported by original claims 2 and 3, now canceled. Furthermore, it is noted that the example on pages 19-21 of the originally filed application is fully enabling. The Office Action has not questioned that this example allows one skilled in the art to produce an inventive product within the present claims. The fact that only one example of the invention is provided in the application is irrelevant to the enablement requirement. In view of the amendments to claim 1, this rejection should be withdrawn.

The Office Action further states:

Applicant has claimed this protective sheet by claiming only the key properties of the resultant protective sheet. The process for making such a protective sheet is missing from applicant's disclosure. One having ordinary skill in the art at the time of the invention would have to run a wide spectrum of experiments in order to create a protective sheet with the 5 key properties claimed by applicant. In this case, any conceivable combination of ingredients either presently existing or which may be discovered can have the properties as claimed by applicant.

Furthermore, the only working examples of the protective sheet provided by the applicant are shown by trade names or trademarks. Page 20 (lines 2-3) of applicant's specification disclose that the protective sheet used in the working example is GH-X 527 from Bischof & Klein, Lengerich. However, this disclosure is insufficient as the use of a trade name or trademark only identifies the source of the product and not its formula or characteristics....

(7/10/2009 Office Action page 4, para. 2-3.)

Applicants have amended claim 1 to recite that the protective sheet is a film made of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers, as supported by original claim 6, now canceled. Furthermore, new claim 23 recites that the protective sheet is constructed from a plurality of layers comprising at least one core layer (KNS) made of at least one homopolymer or copolymer and from at least one further layer selected from the group consisting of adhesive layers (KS) and antiblocking layers (AS), wherein the homopolymers and copolymers of the core layer (KNS) are selected from the group consisting of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers.

Such protective sheets are available from a variety of commercial sources and can be readily obtained based on the stated specifications. Other commercial sources for protective sheets, among others, are illustrated, for example, by the assignees of EP 1767341 A1 to Grefenstein et al. and WO 2008/005110 to McGee et al., which references also illustrate the common practice of claiming polymer films in terms of key properties.

It is important to note that Applicants are not claiming a method of making a protective sheet, but rather the selection of a specific type of protective sheet for use in a specific type of process for making a specific type of product. Applicants have provided a specific trademark and accompanying generic information, including key properties,

such that the protective sheet is well defined. Applicants note that the additional trademark identification is consistent, not inconsistent, with Applicants' disclosure requirements.

The Office Action further states:

As applicant has only claimed a product by its physical characteristics, because of this, one having the ordinary skill in the art would have to undertake undue experimentation because the invention as claimed leaves open the possibility that any combination of materials may contain the claimed characteristics.... The inventor's only disclosure that would lead one to make and use the invention is that Bischoff and Klein sells the product under the trade name GH-X 527. The inventor also discloses that the sheet can be made of polyolefin homopolymers or copolymers, such as polyethylene and polypropylene. However, this disclosure would still invite undue experimentation because it is well known that there are endless numbers of materials which are polyolefin based with infinite combinations of physical characteristics.

(7/10/2009 Office Action page 5, para. 2-3.)

Again, Applicants submit that the present invention is not directed to a process of making a protective sheet, but rather to a selection of a specific kind of protective sheet for use in a specific kind of process to make a specific kind of molding. One of ordinary skill in the art would appreciate that, given all the details provided in the application with respect to the specific protective sheet, including properties, structure, and composition, one of ordinary skill in the art could obtain such a sheet meeting the specified requirements from a variety of commercial suppliers.

2. Rejection of claim 22 under 35 U.S.C. 102(b and f) as being anticipated by Applicant's Admitted Prior Art [hereinafter, "APA"] (See page 20-21 of Applicant's Specification disclosing that GH-X 527 is a known protective sheet from the company of Bischoff and Klein).

The Office Action states: "APA [Applicant's Admitted Prior Art] teaches that GH-X 527 was used and was known in the art, prior to invention....See Table 1 on page 21 of Applicant's specification." (7/10/2009 Office Action page 6, para. 5.)

Applicants have amended claim 22 to further recite that the protective sheet is part of a coated, thermoplastic protective sheet-covered support sheet in the form of a roll for storage, for production of polymer molding, comprising a "coating (B) on a

thermoplastic support sheet (T) comprising (I.1) at least one pigmented coating material (B.1) coated on one surface (T.1) of (T) resulting in a film (B.1), and (I.2) at least one chemically or radiation curable coating material (B.2) to give the film (B.2) that, following its curing, is a transparent coating (B.2), coated on the film (B.1).”

Thus, it is respectfully submitted that this rejection is now moot.

3. **Rejection of claims 1-5, 6-8, 12-16, and 17-21 under 35 U.S.C. 103(a) as being unpatentable over Koniger et al. (WIPO International Publication WO 00/63015, made of record by the applicant, whose English equivalent is Koniger et al. (USP No. 6,777,089 B1).**

The Office Action states:

In claim 1, Koniger teaches a process for producing polymer moldings (M/T/B) with functional surfaces (O) for which (I) a coating (B) is produced on a thermoplastic support sheet (T) by a process comprising (1.1) coating one surface (T.1) of (T) with at least one pigmented coating material (B.1). (See column 4, line 45, to column 5, line 45, disclosing the addition of a coloring layer (pigment) to the substrate (support sheet) and (1.2) coating the resulting film (B.1) with at least one chemically curable coating material (B.2). (See column 4, line 45, to column 5, line 45, disclosing the addition of an outer layer which is radiation curable. Also see column 1, lines 50-67, disclosing the addition of an outer layer that is radiation curable) to give the film (B.2) following its curing a transparent coating (B.2). (See Column 5, lines 32-35, disclosing that the outer layer is transparent.), (II) inserting the resulting coated thermoplastic support sheet (I/B) into an open mold, (III) closing the mold and contacting the uncoated side (T.2) of the coated thermoplastic support sheet (I/B) with a liquid polymeric material (M) to shape the coated thermoplastic support sheet (T/B) and join it firmly to the polymeric material (M), and causing the polymeric material (M) to solidify. (See claim 11 and column 6, lines 61-67, disclosing the injection-back molding of a polymer composition to the substrate sheet), and (IV) removing from the mold (Inherently the sheet is removed from the mold after the addition of the polymer back molding), the resulting coated polymer molding (M/T/B), whose coating (B) is uncured, part-cured or full-cured; where (V) fully curing in or after at least one of step (I) step (III) or step (IV) the uncured or part-cured coating (B) or after step (IV) the full-cured coating (B) is after cured; the coating (B) being covered at least temporarily with a protective sheet (S). (See column 5, lines 33-38, disclosing covering the sheet with a protective layer. This protective sheet allows the curing process to be delayed.)

(7/10/2009 Office Action page 8, para. 1.)

This rejection is respectfully traversed to the extent it applies to amended claim 1. Applicants submit that Koniger, in fact, does not disclose Applicants' process. Koniger teaches: "The radiation curing of the outer layer takes place in this case preferably after the thermoforming operation and with particular preference after the injection backmolding of the film." Similarly in the Examples, in col. 8, Koniger cures the radiation curable film after thermoforming, as indicated in col. 8, lines 28-32, and again, in col. 8, lines 57-60.

In contrast, claim 1 has been amended to recite that "the film (B.2) is fully or partly cured with UV radiation after step (I), but before step (II), following deformation to adapt the coated thermoplastic support sheet (T/B) to the contour of the mold, wherein the resulting full-cured coating (B.2) is optionally after-cured after step (IV) or the resulting part-cured coating (B.2) is fully cured after step (IV), and the resulting polymer molding (M/T/B) is optionally thermally after-treated to raise the crosslink density of (B.2)," as supported by the original specification on page 13, lines 21-29.

Furthermore, claim 1 has been amended to recite that "the functionality of the surface (O) of the polymer moldings (M/T/B) is one which imparts at least one of color, effect, electroconductivity, magnetic shielding, inhibition of corrosion, fluorescence, or phosphorescence," as supported by original claim 20, now canceled. Finally, claim 1 has been still further amended to recite that "the polymer moldings are designed for use in a means of transport selected from the group consisting of watercraft, rail vehicles, aircraft, cycles, motorcycles, automobiles, trucks, and buses," as supported on page 18, lines 22-29 the application.

Further distinguishing from the process of Koniger, new claim 24 further recites that the film (B-2) is partly cured with UV radiation after step (I), but before step (II), following deformation to adapt the coated thermoplastic support sheet (T/B) to the contour of the mold, the resulting part-cured coating (B.2) is fully cured after step (IV), and the resulting polymer molding (MTB) is optionally thermally after-treated to raise the crosslink density of (B.2). New claim 25 recites that the film (B-2) is fully cured with UV radiation after step (I), but before step (II), following deformation to adapt the coated thermoplastic support sheet (T/B) to the contour of the mold, wherein the resulting full-

cured coating (B.2) is after-cured after step (IV), and the resulting polymer molding (MTB) is optionally thermally after-treated to raise the crosslink density of a (B.2).

The Office Action further states:

With respect to claim 1, Koniger does not teach wherein the protective sheet (S) has (s.1) a storage modulus E' of at least 10^7 Pa in the temperature range from room temperature to 100°C , (s.2) an elongation at break $>300\%$ at 23°C longitudinally and transversely to the preferential direction produced by means of directed production processes in the production of (S), (s.3) a transmittance $>70\%$ for UV radiation and visible light with a wavelength of from 230 to 600 nm for a film thickness of 50 micrometers and wherein the coating (B)-facing side (S.l) of the protective sheet (S) has (s.1.1) a hardness <0.06 GPa at 23°C and (s.1.2) a roughness corresponding to an R_a from 50 micrometers² <30 nm as determined by means of atomic force microscopy (AFM).

However, applicant states that the claimed protective sheet can be selected from the group of films consisting of polyethylene, polypropylene, ethylene copolymer, propylene copolymers, and ethylene-propylene copolymers (See applicant's specification-page 16, lines 10-14). Furthermore, applicant has stated that "the protective sheets for inventive use are conventional." (See page 17, line 9). Essentially, applicant has disclosed the use of a well-known conventional plastic as a protective sheet. Koniger also discloses the use of a polyethylene protective sheet. Therefore, it would have been obvious to one having the ordinary skill in the art to select a known protective film such as GH-X 527 for the benefit of using the film as a releasable protective sheet that can be removed from a polymer molding.

In the alternative, Schoepel further teaches that the GH-X series releasable protective sheet are known in the art to be used in application in which a protective sheet can be applied and removed at a subsequent time period. (See paragraph 0132 and 0078.)

It would have been obvious to one having the ordinary skill in the art to alter the teachings of Koniger to include the teachings of Schoepel, since it is well known in the art that GHX series protective sheets are useable as protective films and are among those films that one having the ordinary skill in the art would look to in finding the most effective protective sheet.

(7/10/2009 Office Action page 9, para. 2, to page 10, para. 3.)

Applicants note that Koniger generally discloses a radiation-curable composite layered sheet or film comprising an outer layer, which is a radiation curable composition having a glass transition temperature of more than 40°C ; an optional thermoplastic interlayer; an optional coloring layer; a substrate layer; and an optional adhesive layer

(Abstract and col. 5, lines 20-31). Applied to the transparent outer layer there may be a protective layer, e.g., a removable film, which prevents unintended curing (col. 5, lines 32-38). The protective layer may be composed of polyethylene or polyterephthalate (col. 5, lines 35-38).

As indicated above, Koniger does not use the protective sheet in the same process as presently claimed. Applicants at least partly cure the clearcoat film B.2 before the injection molding operation. With respect to the protective sheet used in the present process, the specified storage modulus, elongation at break, transmittance of UV radiation and visible light, hardness, and roughness, in simultaneous combination, are “essential” to the inventive process, as explained in the application, for the claimed use of the protective sheet in making polymer moldings for means of transportation, including (claim 23) exterior mounted components for automobile bodies.

Thus, Koniger does not teach that the protective sheet imparts to the coating (B)-facing side (S.1) of the protective sheet (S) (s.1.1) a hardness <0.06 GPa at 23°C and (s.1.2) a roughness corresponding to an R_a value over a sampling area of $50\text{ }\mu\text{m}^2$ of <30 nm as determined by means of atomic force microscopy (AFM), as well as the specified (more narrowly amended) elongation at break and storage modulus.

More specifically, new claim 23 and amended claim 22 require (s.1) a storage modulus E' of at least 10^7 to 10^8 Pa in the temperature range from room temperature to 100°C , (s.2) an elongation at break of 400 to 900% at 23°C longitudinally and transversely to the preferential direction produced by means of directed production processes in the production of (S), (s.3) a transmittance $>70\%$ for UV radiation and visible light with a wavelength of from 230 to 600 nm for a path length of $50\text{ }\mu\text{m}$; where one surface of the sheet has (s.1.1) a hardness <0.02 GPa at 23°C , and (s.1.2) a roughness corresponding to an R_a over a sampling area of $50\text{ }\mu\text{m}^2$ of <25 nm as determined by means of atomic force microscopy (AFM). These essential limitations on the protective sheet cannot be found anywhere in Koniger.

The amendments to claim 22 are supported by amended claim 1. In addition claim 22 has been amended to recite a hardness less than 0.02 GPa at 23°C , and a roughness corresponding to an R_a over a sampling area of $50\text{ }\mu\text{m}^2$ of less than 25 nm as

determined by means of atomic force microscopy (AFM), as supported by original claims 4 and page 16, line 1, of the application.

Regarding the non-obvious selection of the protective sheet used in the process of claim 1, the skilled person in the art is aware that polyethylene and related polymers encompass a vast array of chemical and physical property possibilities. Polymers that differ in copolymer composition, ratio of comonomers, average molecular weight, molecular weight distribution, glass transition temperature, degree of crystallinity, degree of crosslinking, and type and number of polymer additives present are possible and are well known in the art. These factors will affect storage modulus, elongation at break, and transparency of films made from polyethylene and related polymers. Those of skill in the art thus readily appreciate that the properties required in Applicants' claim 1 are not present in all polyethylene or related polymer sheets used for a protective purpose in various contexts. In fact, the non-obviousness of the present selection is underscored by the Office Action, which stated, "[I]t is well known that there are endless numbers of materials which are polyolefin based with infinite combinations of physical characteristics." (7/10/2009 Office Action page 6, lines 1-2). In fact, there are a wide variety of protective films that can be obtained for a wide variety of processes and products for various purposes.

The disclosure of the protective layer of Koniger is at best a broad invitation to investigate films made of ethylene or polyethylene terephthalate. Yet, what would be investigated? According to Koniger, the films are merely used to protect the coatings (B), something achievable with many different and diverse coatings, even polyterephthalate films. In contrast, Applicants have found a specific type of protective film that, in a specific process, produces results in terms of gloss and other desired qualities, which protective film and results are not remotely taught by Koniger. For example, polyethylene or polyethylene terephthalate films can have a surface roughness outside of the claimed range, but the applicants have found that roughness as determined by AFM that corresponds to an Ra value over a 50 mm² sampling area of <30 nm is ideal for producing coatings (B) with the desired properties.

The present specification states: The polymer moldings (M/T/B) with the functional surfaces (O) have outstanding surface properties. Their functional surfaces

(O) have outstanding leveling, outstanding distinctiveness of the reflected image (DOI), and very good gloss...This applied even in those cases where the product of step (I) has been stored for a relatively long time before step (II) is carried out....Since they [the polymer moldings (M/T/B)] have what is termed automotive quality...they possess in particular outstanding suitability as exterior mounted components for automobile bodies, especially for top class automobile bodies.” [Page 18, lines 14-21, and page 19, lines 1-5.]

These outstanding properties are nowhere taught or even sought by Koniger. In fact, Applicants have shown that the polymer moldings of Koniger do not possess the desired properties:

[T]he coating (B) being covered at least temporarily with a protective sheet (S) is known from [Koniger]...The process, however gives polymer moldings (M/T/B) having unsatisfactory surface properties. In particular the functional surfaces (O) have inadequate leveling, an inadequate distinctiveness of the reflected image (DOI) and/or inadequate gloss. This applies in particular to those cases where it was necessary to store the process of step (I) for a relatively long time....[Page 2, lines 11-21.]

Thus, the present invention solved the problem found in the prior art represented by Koniger. As stated in the specification, the invention was surprising and unforeseeable for the skilled worker in light of the prior art. (Page 5, lines 21-25.)

The Office Action is, in effect, using Koniger as an invitation to investigate to obtain Applicants' molding process, in particular the use of the protective sheet with the specified properties. MPEP §2112 IV states “[a]n invitation to investigate is not an inherent disclosure’ where a prior art reference ‘discloses no more than a broad genus of potential applications of its discoveries.’ *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1367, 71 USPQ2d 1081, 1091 (Fed. Cir. 2004) (explaining that ‘[a] prior art reference that discloses a genus still does not inherently disclose all species within that broad category’ but must be examined to see if a disclosure of the claimed species has been made or whether the prior art reference merely invites further experimentation to find the species

Although Koniger states that the protective layer of Koniger may be composed of polyethylene or polyterephthalate, there is no teaching of the protective sheet in terms of

composition, structure, and key properties, such as could be selected from a wide variety of possible polymer films. For example, the use of fillers or other additives could significantly affect the properties. There is no teaching in Koniger of any specific commercially available protective film. Therefore, there is no basis for the allegation that the protective films of Koniger, which are not fully described, teach the chemical composition and structure of the specifically selected protective sheets of Applicants' claim 1.

Applicants appreciate the additional detailed bases of rejection for claims 2-8, 12-13, and 14-21. (7/10/2009 Office Action, page 10, part. 2, to page 15, para. 2.) However, claims 2, 3, and 6 have been canceled. The other claims 4-5, 7-88, 12-13, and 14-21 depend from, and further limit independent claim 1. The process of claim 1 is a limitation of claim 21. Therefore, these claims incorporate all the limitations of claim 1 and are patentable for the reason that they depend from claim 1, for the reasons stated above.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations (*CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003); *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974)). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings (*DyStar Textilfarben GmbH & Co. Duetschland KG v. C.H. Patrick Co.*, 464 R.3d 1356, 1360, 80, USPQ2d 1641, 1645 (Fed. Cir. 2006), (MPEP 2143 G). Third, there must be a reasonable expectation of success *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986), (MPEP 2143.02).

Koniger does not teach all the elements of the process of independent claim 1. Specifically, Koniger does not teach that the protective layer has the specified storage modulus E', elongation at break, transmittance, nor that the protective sheet has, on one side thereof, the specified hardness and roughness. Second, as pointed out above, these physical property limitations for the protective sheet of claim 1 are not obvious. Third, the prior art does not teach the unexpected advantages of the present invention, as discussed above. Obviousness cannot be predicated on what is unknown. *In re Shetty*,

566 F.2d 81, 86, 195 U.S.P.Q. 753, 756-57 (C.C.P.A. 1977). Koniger merely teaches that the use of the protective sheet is to prevent unintended curing. (Col. 5, lines 33-38.) The protective film (S) disclosed in claim 1 of the present application is not capable of preventing unintended curing, since the protective films of claim 1 have a transmittance of >70% of UV radiation and visible light with a wavelength of from 230 to 600 nm for a film thickness of 50 mm. The skilled person in the art would recognize that such a protective film could allow sufficient UV and visible light to penetrate the film to cure the coating. Fifth, Koniger teaches the use of the protective film in a different process, involving a different curing sequence.

The Supreme Court has recently reaffirmed the principle that “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the art”. *KSR Int’l. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). Furthermore, while the KSR decision may have eliminated any rigid requirement for application of the teaching-suggestion-motivation test (TSM test), it did not disturb the longstanding principle that “a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).”

Therefore reconsideration and removal of the obviousness rejection of the claims over Koniger is respectfully requested.

4. Rejection of claims 9-11 under 35 U.S.C. 103(a) as being unpatentable over Koniger et al. (U.S. Patent No. WIPO International Publication WO 00/63015, made of record by the applicant, whose English equivalent is Koniger et al. (USP No. 6,777,089 B1) alone or optionally in view of Schoepel (U.S. pre-grant publication 2004/0042379 A1) and in further view of Otaki et al. (U.S. Patent No. 6,509,076), hereafter “Otaki.”.

Koniger is discussed above. Schoepel is directed to an optical storage medium from which information can be read out and/or into which information can be recorded with a light beam. Abstract. The optical storage film is characterized by an over film exhibiting a vertical birefringence of less than 0.0001 at 20°C at the wavelength of the light beam. Schoepel, col. 11, claim 1. This rejection states that Koniger is taken

“optionally in view of Schoeppel.” However, the rejection does not state why Schoeppel was cited in the rejection nor identify any particular portions of Schoeppel as relevant. It is respectfully submitted that Schoeppel cannot correct the deficiencies of Koniger discussed above.

Otaki generally discloses a pressure-sensitive adhesive for a pressure-sensitive adhesive layer in a volume hologram laminate which, when kept in the pressed state, for example, during storage, is less likely to cause spotty hologram defects in the volume hologram layer. The volume hologram laminate comprises a substrate, and stacked on the substrate in the following order, a first pressure-sensitive adhesive layer, a volume hologram layer, a second pressure-sensitive adhesive layer, and a surface protective film. The second pressure-sensitive adhesive layer comprises an acrylic copolymer resin, composed mainly of an alkyl acrylate and a crosslinking agent, and has a dynamic storage modulus of not less than 2.5×10^5 Pa and a loss tangent ($\tan \delta$) of not more than 0.15. The Office Action alleges:

In [sic, regarding] claim 9, Koniger does not explicitly teach wherein the protective sheet (S) is constructed from a plurality of layers...However, Otaki discloses wherein the protective sheet (S) is constructed from a plurality of layers. (See column 10, line 36, to column 11, line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. More specifically the protective film has an adhesive layer and a release layer (antiblocking layer).)

Koniger and Otaki are analogous art because they solve the similar problem of protecting a laminate sheet from post processing harm by adding a protective sheet to the outer layer. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Koniger and Otaki before him or her, to modify the teachings of Koniger to include the teachings of Otaki for the benefit of creating a protective layer that is capable of bonding to the outer layer of the laminate sheet any preventing any unwanted curing/damage on the outer surface. (See Column 1, lines 25-30, disclosing that the multi layer laminate (hologram) has many defects when they are stacked or pressed on top of one another during storage.) The motivation for doing so would have been to delay the defects by adding a protective layer that comes off prior to use. Therefore, it would have been obvious to combine Koniger and Otaki to make a polymer molding whose final product can be delayed until after the protective film was taken off because one would have been motivated to solve the problem of eliminating defects in the resultant product.

(7/10/2009 Office Action page 15, last paragraph, to page 16, paragraphs 1-2.)

Applicants appreciate the detailed basis of rejection of claim 9, but must respectfully traverse. In the “Background Art” section (col. 1, ll. 14-18), Otaki states that the prior art hologram laminates also have a “transparent protective film” (l. 19). Yet the prior art volume hologram laminates still “pose a problem of the occurrence of spotty hologram defects” (col. 1, ll. 26-30). Thus, as stated in the “Disclosure of the Invention” section, Otaki teaches that “it is an object of the present invention to provide a pressure-sensitive adhesive for a pressure-sensitive adhesive layer in a volume hologram laminate which . . . is less likely to cause spotty hologram defects in the volume hologram layer” (col. 1, ll. 41-48). Thus the teaching of Otaki is an adhesive of specific composition and elastic properties which solves the problem of spotty defects. The motivation of Otaki is to modify the elastic properties of an adhesive layer, if present, rather than to provide a protective sheet layer as presently claimed for the specified process to make the specified product, which product is not a hologram laminate. Thus, Otaki cannot reasonably correct the deficiencies of Koniger discussed above.

Regarding claims 10 and 11, the Office Action alleges that Otaki discloses that the protective film has a core layer, an adhesive layer, and a release layer, and the protective film can comprises polyethylene among other polymers. The Office Action alleges that Otaki provides motivation to use a protective layer in order to eliminate defects. As stated above, it is the teaching of Otaki that an adhesive of specific composition and elastic properties solves the problem of spotty defects, not the presence of a specific protective film as presently claimed for use in a specific process to make a specific type of polymer molding.

Taken as a whole, it is respectfully submitted that Otaki fails to correct the deficiencies of Koniger or to provide the requisite motivation to modify Koniger to obtain the presently claimed process, even when optionally taken in view of Schoeppel. In addition, claims 9-10 (directly) and claim 11 (indirectly) depend from claim 1, and incorporate all the limitations of claim 1, which is not obvious over Koniger as discussed above. Reconsideration and removal of the obviousness rejection of claims 9-11 is therefore respectfully requested.

CONCLUSION

Applicants respectfully submit that the Application and pending claims are patentable in view of the foregoing remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

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